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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,242	10/16/2001	Karthisha S. Canagasaby	42390P11916X	8029
23363	7590	09/08/2005	EXAMINER	
CHRISTIE, PARKER & HALE, LLP PO BOX 7068 PASADENA, CA 91109-7068			LUU, CUONG V	
			ART UNIT	PAPER NUMBER
			2128	

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/982,242

Applicant(s)

CANAGASABY ET AL.

Examiner

Cuong V. Luu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-30 have been examined. Claims 1-30 have been rejected.

Specification

1. The disclosure is objected to because of the following informalities:

The applicants cite "equation 1" (p. 5, paragraph 0017, line 2; and p. 6, paragraph 0017, line 4). However, nowhere in the disclosure can this equation be found.

Appropriate correction is required.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

2. Claims 1-12, 14-26, and 28-30 provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-12, 14-26, and 28-30, respectively, of copending Application No. 09951750. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-30 are rejected under 35 U.S.C. 101 because the claimed invention is drawn to non-statutory subject matter. The Examiner submits that Applicant's have not recited any limitations relating to a practical application in the technological arts and have merely claimed a manipulation of abstract ideas (see MPEP 2106).

Section 2106 [R-2] (Patentable Subject Matter - Computer-Related Inventions) of the

MPEP recites the following:

"In practical terms, claims define nonstatutory processes if they:

- consist solely of mathematical operations without some claimed practical application (i.e., executing a "mathematical algorithm"); or
- simply manipulate abstract ideas, e.g., a bid (Schrader, 22 F.3d at 293-94, 30 USPQ2d at 1458-59) or a bubble hierarchy (Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759), without some claimed practical application."

An invention which is eligible for patenting under 35 U.S.C. § 101 is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. The fundamental test for patent eligibility is thus to determine whether the claimed invention produces a "useful, concrete and tangible result." The test for practical application as applied by the examiner involves the determination of the following factors:

(1) "Useful" - The Supreme Court in Diamond v. Diehr requires that the examiner look at the claimed invention as a whole and compare any asserted utility with the claimed invention to determine whether the asserted utility is accomplished.

(2) "Tangible" - Applying In re Warmerdam, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical construct claimed, such as a disembodied data structure and method of making it. If so, the claim involves no more than a manipulation of an abstract idea and therefore, is

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nonstatutory under 35 U.S.C. § 101. In Warmerdam the abstract idea of a data structure became capable of producing a useful result when it was fixed in a tangible medium, which enabled its functionality to be realized.

(3) "Concrete" - Another consideration is whether the invention produces a "concrete" result. Usually, this question arises when a result cannot be assured. An appropriate rejection under 35 U.S.C. § 101 should be accompanied by a lack of enablement rejection, because the invention cannot operate as intended without undue experimentation.

3. As per claim 1, the Examiner respectfully submits, under current PTO practice, that the claimed invention does not recite either a useful, concrete, or tangible result and is merely drawn to a manipulation of abstract ideas.

- The invention is not useful since the claimed "a method comprising" does not recite a result (post process) that is useful in the technological art. This makes it difficult to determine the Applicant's invention since it merely claims a manipulation of abstract ideas. (The patent eligibility standard requires **significant functionality to be present to satisfy the useful result aspect** of the practical application requirement. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at 1036.)
- The claim is not tangible since the result of the method is undefined.
- The claim is not concrete because the results are not assured.

4. Dependent claims 2-14 inherit the defect as being dependent from independent claim 1.

5. As per claim 15, the Examiner respectfully submits, under current PTO practice, that the claimed invention does not recite either a useful, concrete, or tangible result and is merely drawn to a manipulation of abstract ideas.

- The invention is not useful since the claimed "an apparatus comprising" does not recite a result (post process) that is useful in the technological art. This makes it difficult to determine the Applicant's invention since it merely claims

a manipulation of abstract ideas. (The patent eligibility standard requires **significant functionality to be present to satisfy the useful result aspect** of the practical application requirement. See *Arrhythmia*, 958 F.2d at 1057, 22 USPQ2d at 1036.)

- The claim is not tangible since the result of the apparatus is undefined.
- The claim is not concrete because the results are not assured.

6. Dependent claims 16-22 inherit the defect as being dependent from independent claim 15.

7. As per claim 23, the Examiner respectfully submits, under current PTO practice, that the claimed invention does not recite either a useful, concrete, or tangible result and is merely drawn to a manipulation of abstract ideas.

- The invention is not useful since the claimed "an apparatus comprising" does not recite a result (post process) that is useful in the technological art. This makes it difficult to determine the Applicant's invention since it merely claims a manipulation of abstract ideas. (The patent eligibility standard requires **significant functionality to be present to satisfy the useful result aspect** of the practical application requirement. See *Arrhythmia*, 958 F.2d at 1057, 22 USPQ2d at 1036.)
- The claim is not tangible since the result of the apparatus is undefined.
- The claim is not concrete because the results are not assured.

8. Dependent claims 24, and 26-30 inherit the defect as being dependent from independent claim 23.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "capacitance is distributed RD ladder" in claim13 is used by the claim to mean, "the capacitance is equivalent to a distributed RC ladder", while the accepted meaning is "the capacitance is a value of a capacitor." The term is indefinite because the specification does not clearly redefine the term.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-30 are rejected under 35 U.S.C. 102(b) as being unpatented by *Neil Weste et al (Principles of CMOS VLSI Design: A System Perspective, Second Edition, 1993, Addison-Wesley Publishing Company).

10. As per claim 1, Weste et al teach a method comprising:

measuring electrical characteristics of an interconnection (p. 198, paragraph 4, lines 1-2; p. 176, paragraph 2-4; p. 191, paragraph 3. Note that these paragraphs are in sections titled Resistance Estimation and Capacitance Estimation. Therefore, they fit the "approximated" term in the limitation cited below in this claim); and

determining a test network having electrical characteristics such that the electrical characteristics of the interconnection are approximated by the electrical characteristics of the test network within a specified tolerance (p. 199, paragraph 1).

11. As per claim 2, Weste et al teach the test network is a resistive/capacitive network (p. 199, paragraph 1).

12. As per claim 3, Weste et al teach measuring includes creating a graphical representation of an output of the interconnection (p. 207, Fig. 4.18).

13. As per claim 4, Weste et al teach creating a graphical representation of an output of the resistive/capacitive network that approximates the graphical representation of the output of the interconnection within a specified tolerance (p. 207, Fig. 4.18).

14. As per claim 5, approximation is uncertain due to variation of designers' knowledge and defined values provided by manufacturers. A designer cannot know how much

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his/her approximation from the manufactured circuit. This limitation is, therefore, rejected.

15. As per claim 6, Weste et al teach the test network is a resistive network (p. 199, Fig. 4.15).

16. As per claim 7, Weste et al teach the test network is a capacitive network (p. 199, Fig. 4.15).

17. As per claim 8, Weste et al teach the test network is comprised of a plurality of resistive/capacitive networks (p. 199, Fig. 4.15).

18. As per claim 9, Weste et al teach connecting the resistive/capacitive network between a driver of a first input/output circuit and a receiver of a second input/output circuit (p. 207, Fig. 4.18).

19. As per claim 10, these limitations have already been discussed in claim 9. They are, therefore, rejected for the same reasons.

20. As per claim 11, resistors and capacitors whose values are adjustable exist for decades. These limitations are, therefore, rejected.

21. As per claim 12, Weste et al teach the resistive/capacitive network is implemented on an integrated circuit chip (p. 198, paragraph 4; p. 199, paragraph 1).

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22. As per claim 13, Weste et al teach the capacitance is distributed RC ladder (p. 199, Fig. 4.15).

23. As per claim 14, implementation of the resistive/capacitive network on a printed circuit board exists for decades. These limitations are, therefore, rejected.

24. As per claim 15, Weste et al teach an apparatus comprising:

an integrated circuit having at least one input/output ports, the at least one input/output ports having a driver and a receiver (p. 628, paragraph 4, Fig. 9.1; p. 357, paragraph 2; p. 358, paragraph 1; p. 360, paragraph 1; p. 361, paragraph 3. The RISC microcontroller is an integrated circuit which must have I/O ports with driver(s) and receivers(s) discussed in p. 357, paragraph 2; p. 358, paragraph 1; p. 360, paragraph 1; and p. 361, paragraph 3 to communicate with components outside of the chip); and

a test network electrically coupling the driver and the receiver such that an input/output interface interconnection may be emulated therewith (p. 199, paragraph 1).

25. As per claim 16, these limitations have already been discussed in claim 2. They are, therefore, rejected for the same reasons.

26. As per claim 17, these limitations have already been discussed in claim 6. They are, therefore, rejected for the same reasons.

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27. As per claim 18, these limitations have already been discussed in claim 7. They are, therefore, rejected for the same reasons.

28. As per claim 19, these limitations have already been discussed in claim 11. They are, therefore, rejected for the same reasons.

29. As per claim 20, these limitations have already been discussed in claim 12. They are, therefore, rejected for the same reasons.

30. As per claim 21, these limitations have already been discussed in claim 14. They are, therefore, rejected for the same reasons.

31. As per claim 22, a microprocessor is a big integrated circuit comprising of many smaller blocks of integrated circuits. Therefore, the examiner interprets that the integrated circuit is part of a microprocessor.

As per claim 23, these limitations have already been discussed in claim 1. They are, therefore, rejected for the same reasons.

32. As per claim 24, Weste et al teach the elements are resistive elements and capacitive elements (p. 199, paragraph 1).

33. As per claim 25, these limitations have already been discussed in claims 1 and 11. They are, therefore, rejected for the same reasons.

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34. As per claim 26, these limitations have already been discussed in claim 8. They are, therefore, rejected for the same reasons.

35. As per claim 27, these limitations have already been discussed in claim 13. They are, therefore, rejected for the same reasons.

36. As per claim 28, these limitations have already been discussed in claim 20. They are, therefore, rejected for the same reasons.

37. As per claim 29, these limitations have already been discussed in claim 14. They are, therefore, rejected for the same reasons.

38. As per claim 30, these limitations have already been discussed in claims 1 and 4. They are, therefore, rejected for the same reasons.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cuong V. Luu whose telephone number is 571-272-8572. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jean Homere, can be reached on (571)272-3780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. An

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inquiry of a general nature or relating to the status of this application should be directed to the TC2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CVL

Thai Phan
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